INSTRUCTION BOOK

Dear Owner,

You have chosen a sewing machine of the finest quality and it will turn your sewing hours into **an enjoyable and relaxing experience.**

We congratulate you. Your machine will soon become more than a precious friend to make your daily work easier; it will give you unending satisfaction. To help you make the best use of it, first read this booklet, page by page . . . . .

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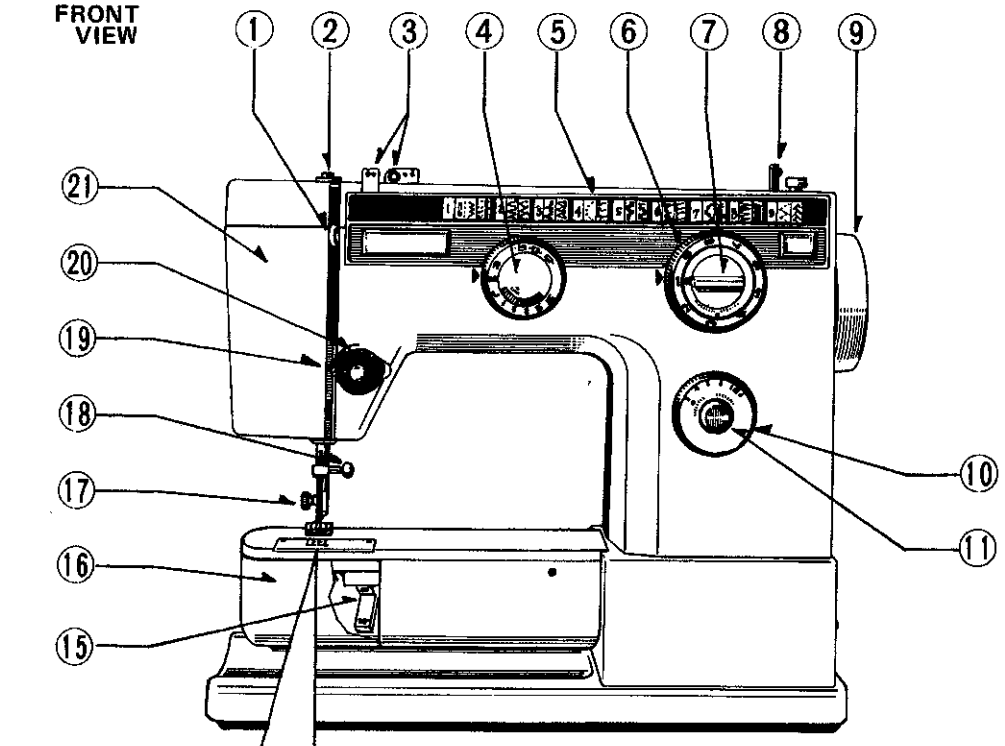
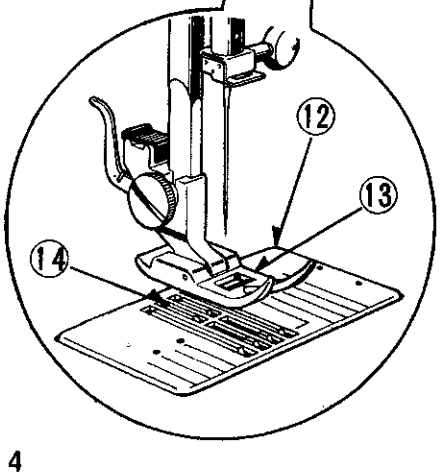
PARTS IDENTIFICATION

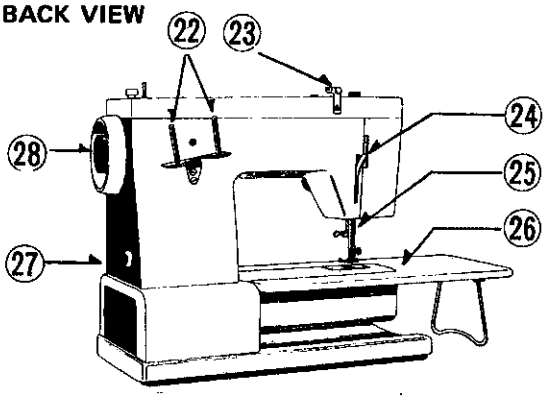
MAIN PARTS

FRONT VIEW





BACK VIEW



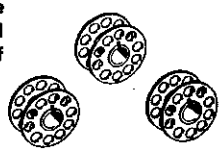
1. Take-up Lever	Always at its highest position when beginning or ending sewing.
2. Pressure Control	For regulating the pressure on the fabric.
3. Top Thread Guides	For leading the thread to the tension dial for sewing.
4. Needle Position/ Stitch Width/ Buttonhole Dial	For selecting the needle position and setting the stitch width, as well as for easy four-step buttonholes.
5. Stitch Pattern Selection Table	For reference of selected stitch pattern.
6. Stitch Pattern Selector	For selecting the stitch pattern.
7. Superautomatic Stitch Knob	For changing from ordinary stitches to Superautomatic, triple reinforced stitches (stretch stitch).
8. Bobbin Winder	For winding thread on a bobbin.
9. Hand Wheel	
10. Stitch Length Dial	For selecting the stitch length between 0 and 4 mm per stitch.
11. Reverse Button	Push the button for easy backtacking to lock the thread ends.
12. Needle Plate	With guide lines for accurate sewing.
13. Presser Foot	For holding the fabric when sewing.
14. Feed Dog	Diamond point to feed fabric accurately.
15. Feed Dog Height Button (inside cover)	For regulating the feed dog height for various types of sewing.
16. Access Cover	Access to the bobbin, the bobbin case and the feed dog height button.
17. Presser Foot Screw	For clamping the presser foot in place on the presser bar.
18. Needle Clamp Screw	For holding the needle in place in the slot of the needle bar.
19. Tension Dial	For regulating the amount of tension on the upper thread.
20. Check Spring	For automatic precise flow of the upper thread.
21. Face Plate	Hinge type. Opened for replacement of the light bulb and for oiling.
22. Spool Pins	
23. Bobbin Winder Tension Disc	For providing the proper tension on the thread when bobbin winding.
24. Presser Foot Lever	For raising or lowering the presser bar and the presser foot.
25. Thread Cutter	
26. Extension Plate	For changing to the flat sewing surface.
27. Light Switch	For turning on or off the light.
28. Coupling Wheel	For stopping the movement of the needle bar in order to wind a bobbin.

ACCESSORIES

Your new sewing machine comes equipped with the following set of accessories to make your sewing easier.

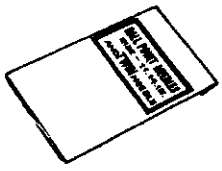
Three Metal Bobins

The bobbins are made of metal and hold about 70 meters of thread.



Needles

All-purpose needles sizes 70, 80 and 90 are included.

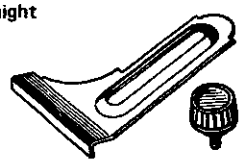


Quilting Guide

helps make parallel rows of stitching.

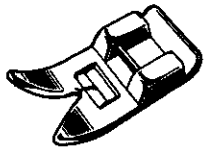
Cloth Guide and Screw

aids in sewing straight seams.



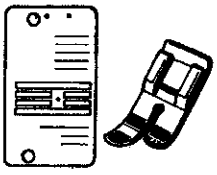
All Purpose Foot

use for all utility sewing.



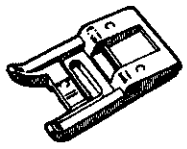
Straight Stitch Foot and Plate

for straight sewing on sheer and very light weight materials where extra support is needed.



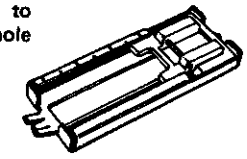
Embroidery Foot

has a wide groove on the bottom which allows the foot to pass over dense stitches. Also has two small grooves in front to accommodate cord.



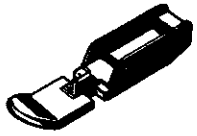
Buttonhole Foot

has measuring lines to insure exact buttonhole length needed.



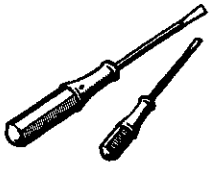
Cording and Zipper Foot

for stitching very close to the edge of a cord or zipper.



Screw-drivers

Small one for use on bobbin tension. Large one for use on thumb screw, needle clamp screw, etc.

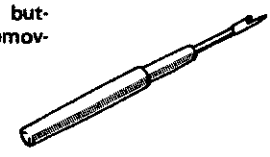


Tubed Oiler

for use in oiling the machine.

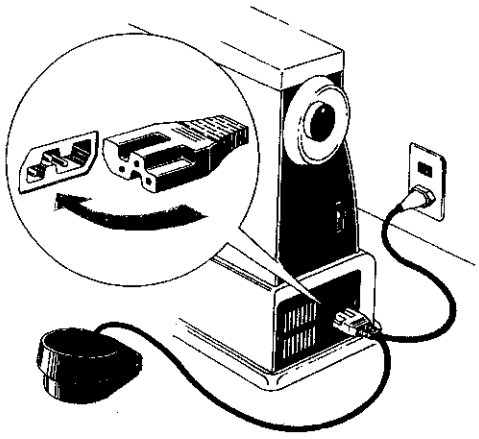
Seam Ripper

for cutting open buttonholes and for removing stitches.



ELECTRICAL CONNECTIONS

Insert the plug into the socket on the right side of the machine. The plug will only go in one way. Place the foot control in such a position that your foot rests comfortably on it. Insert the plug into a wall outlet.
When not in use, keep the plug disconnected from machine.



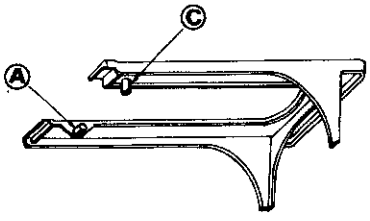
SAFETY

In accordance with the recommendations of electrical safety-, standard- and control authorities, the sewing machine must be disconnected from the main supply by removing the plug from the socket-outlet whenever:
– the machine is left unattended,
– the machine is being serviced,
– mechanical parts are changed,
– accessories are changed.

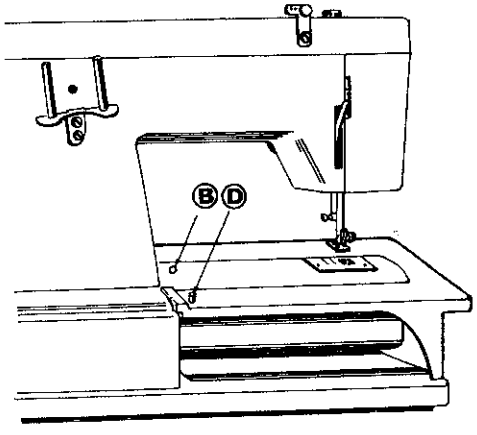
See also pages 20 & 38–39.

ATTACHING THE EXTENSION PLATE

To change to the flat sewing surface, put the extension plate in place as follows.



1. Insert the pin (A) at the inside front of the plate into the corresponding front hole (B) on the free arm.
2. Then, put the complete extension plate in place so that the vertical pin (C) of the plate is in the hole (D) at the back of the free arm.



Note: In case of sewing tubular areas, detach the extension plate for free–arm sewing.

CHOOSING THE RIGHT NEEDLE

TYPES OF NEEDLES

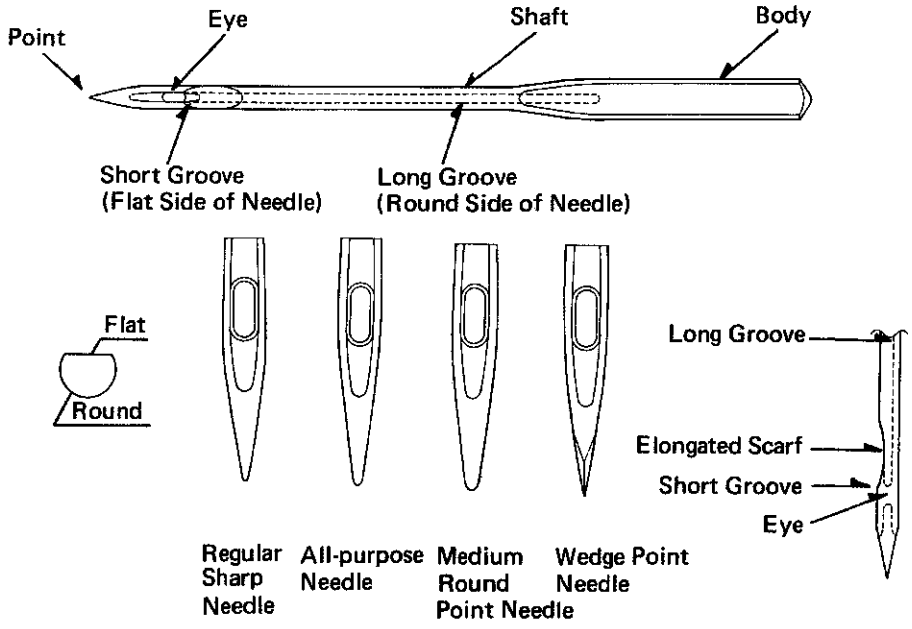
The correct selection of needle to suit the thread and fabric being sewn ensures the best stitching results. Fine fabrics should be sewn with fine needles, heavier fabrics with heavier needles. For the best results, sewing machine needles should be replaced when they become even slightly dull or bent or at the completion of every other garment.

A regular needle is suggested for use with woven fabrics. Needles of the System 705 (U.S. style 15 x 1) are used on the majority of household sewing machines. They range in sizes from 60 to 120 with the lower number indicating the finer needle. The most commonly used sizes are 80 and 90.

An all-purpose needle is designed to handle knits as well as woven fabrics. It eliminates skipped stitches and the fine round point will not damage delicate fabrics. This is the needle provided with your sewing machine and will be used for most of your sewing. A larger rounded point may still be necessary for certain knits, such as bathing suit fabric or power net.

A ball point needle is recommended for use with tricots, jerseys, lingerie and power nets. Unlike sharp, pointed needles, which pierce fibres of knitted fabrics, destroying elasticity, the ball point slips between fibres, preventing damage to fabric and skipped stitches. These are available in fine, medium, and heavy ball points.

A wedge point needle is recommended for use with leather and leather-look vinyls. A wedge cutting point pierces leather more easily than ordinary sewing machine needles, resulting in more satisfactory stitching.



NEEDLE, THREAD, FABRIC & STITCHING GUIDE

The correct selection of needle and thread to suit the fabric will result in more satisfactory stitching. Fine fabrics should be stitched with fine needles, fine thread and short stitches. For the best results on heavier fabrics, use coarser needles, heavier threads and longer stitches. Replace the machine needle when it becomes even slightly dull or bent.

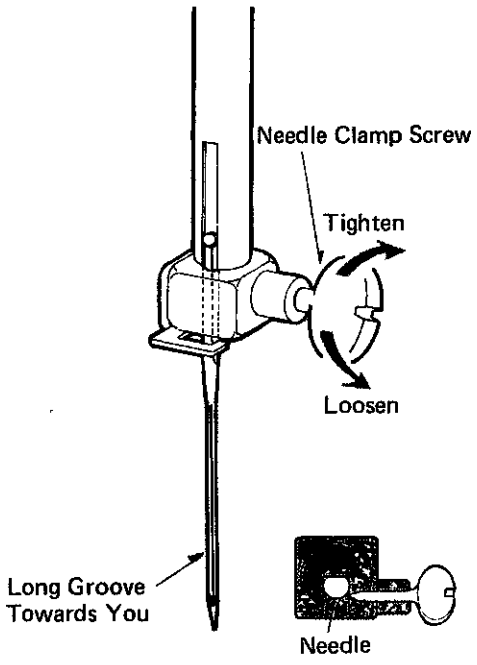
Fabric	Needle No.	Machine Stitches Per Inch	Mercerized Thread	Synthetic Thread
Extremely heavy tarpaulin, sacking, canvas, duck, etc.	110 – 120	6 to 8	Heavy Duty	
Heavy upholstery fabric, ticking, denim, leatherette.	110 – 120	8 to 10	Heavy Duty	
Medium heavy drapery fabric, velveteen, suiting, felt, terry cloth, etc.	90 – 100	10 to 12	Heavy Duty	
Medium broadcloth, percale, gingham, linen, chintz, taffeta, sheer wool, shantung, etc.	80 – 90	12 to 14	50	○
Sheer voile, lawn, dimity, crepe, handkerchief linen, plastic film, etc.	70 – 80	14 to 16 (plastic film) 8 to 10	50	○
Very sheer chiffon, batiste, lace, organdy, nylon net, marquisette, etc.	60 – 70	16 to 20	60	○

CHANGING THE NEEDLE

Always change the needle after every other garment, especially when sewing on polyester and nylon fabrics which dull needles much faster. When needles are dull or bent, they damage both your when putting sewing machine needles in place is that the flat side of the needle is placed to the back of the machine, when the bobbin is put in from the front. If the needle is inserted incorrectly, the stitches will not form.

To change the needle:

1. Raise the needle bar to its highest position by turning the hand wheel towards you.
2. Loosen the needle clamp screw to remove the needle.
3. Place the needle (flat side to the back and long groove to the front) in the needle clamp and push it up as far as it will go, tighten the needle clamp screw.
4. After changing the needle, make one complete turn of the hand wheel by hand to make sure that the needle clears the needle plate.



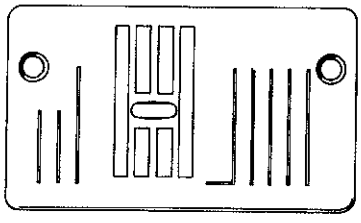
CHANGING THE NEEDLE PLATE

The zigzag needle plate fixed on your machine can be used for all normal sewing, but, for straight sewing on fine fabrics or soft or very stretchy fabrics, you may want to use the straight stitch needle plate together with the straight stitch foot, both of which are included in your accessory box.

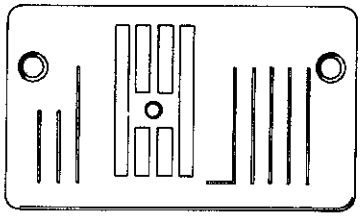
To change the needle plate, remove the two screws holding the plate in place. Lift the needle plate and replace.

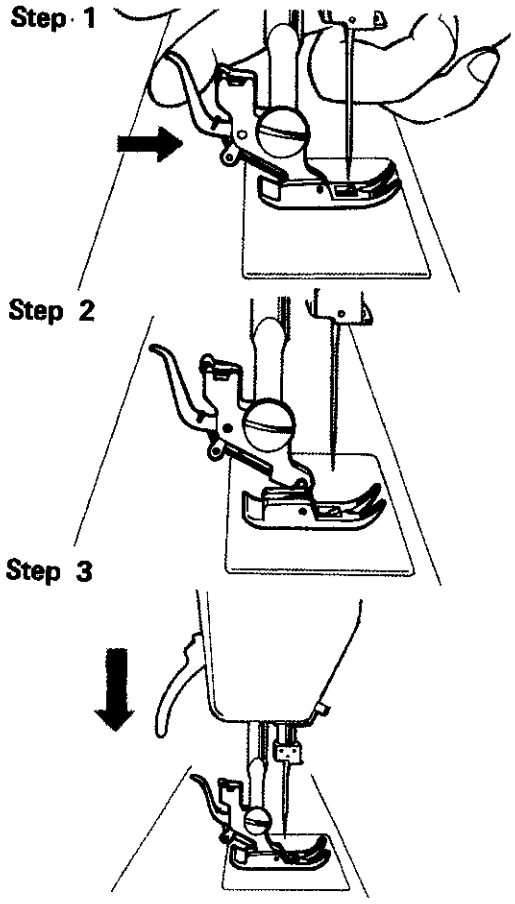
The needle plate is removed for cleaning the lint which may pile up between the needle plate and the feed dogs.

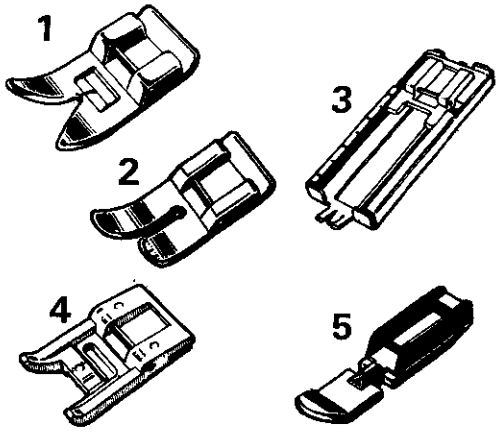
Zigzag Needle Plate



Straight Stitch Needle Plate







- **Changing the Foot**

Pull the presser foot shank lever towards you to remove the foot. (Step 1). To attach, place the desired foot under the shank and lower the presser bar. (Step 2) The foot will be locked automatically. (Step 3)

- **The All Purpose Foot** (Fig. 1)

This foot is flat on the bottom and has a wide hole to accommodate wide stitches. This foot should be used for all normal sewing.

- **The Straight Stitch Foot** (Fig. 2)

This foot is flat on the bottom and has only a small hole to accommodate straight stitching only. It may be used on sheer or soft fabrics for more control when the all purpose foot allows the fabric to be pulled with the needle.

- **The Buttonhole Foot** (Fig. 3)

This foot has a frame which holds the fabric taut enough to produce a good buttonhole. The markings on the side allow a buttonhole to be made of the exact length desired.

- **The Embroidery Foot** (Fig. 4)

This foot has a wide groove on the bottom. This groove allows the foot to pass over dense stitches such as the satin stitch without catching on the stitch. It is transparent to make the stitching more visible. It has two small grooves in the front to make cording easier. Do not use this foot for normal sewing of lightweight fabrics. Since it is grooved, it will not hold the fabric taut enough to produce a good straight stitch.

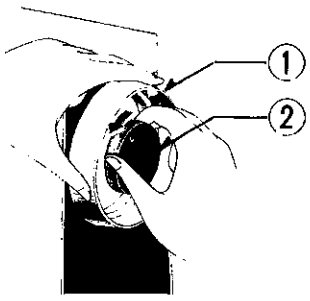
- **Cording and Zipper Foot** (Fig. 5)

This foot is very narrow with needle openings on its right and left sides for sewing in zippers and inserting cording.

WINDING THE BOBBIN

Disengage the hand wheel (1) from the stitching mechanism by turning the coupling wheel (2) towards you or counterclockwise.

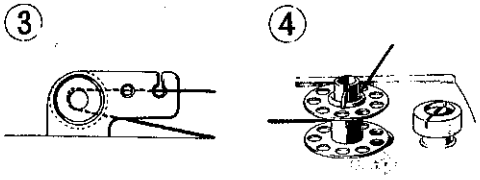
Place a spool of thread on one of the spool pins and lead the thread through the rear Top Thread Guide (3) after winding it around the Bobbin Widner Tension Disc. Slip the end of the thread through a hole in the rim of the bobbin and place the bobbin on the spindle of the bobbin winder (4), fitting the notch on the bobbin over the small spring on the spindle.

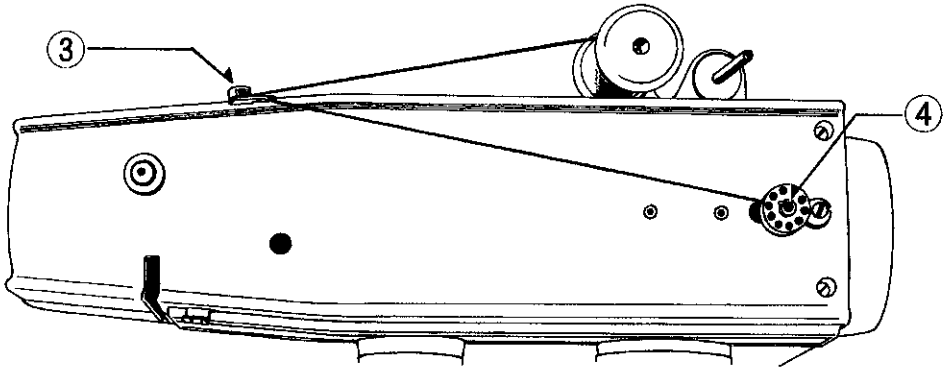


Push the bobbin winder to the right, and hold the thread end loosely, then run the machine slowly. The bobbin will stop turning when the bobbin is full.

Cut the thread and push the bobbin winder to the left. Remove the bobbin from the bobbin winder.

Turn the coupling wheel away from you until the sewing mechanism is again engaged so that the needle moves when you turn the hand wheel.

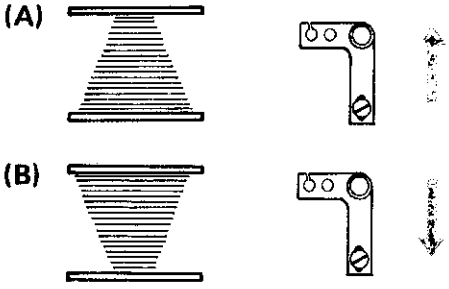


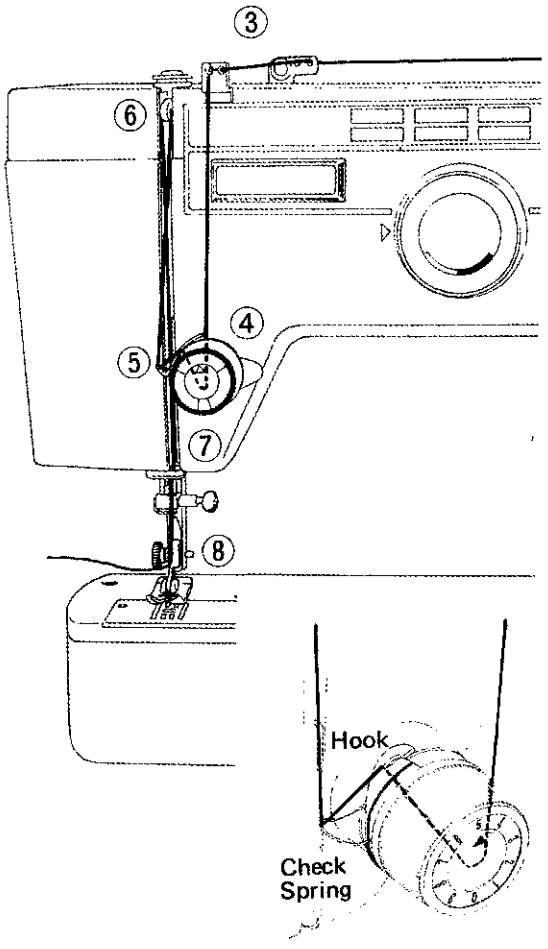


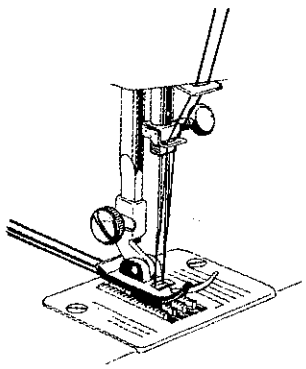
ADJUSTING THE BOBBIN WINDER

It may be necessary to adjust the rear top thread guide if the bobbin winds unevenly.

If the bobbin winds unevenly as shown in Fig. (A), loosen the set screw of the rear top thread guide and move the thread guide up slightly. If the bobbin winds as shown in Fig. (B), move the thread guide down slightly.







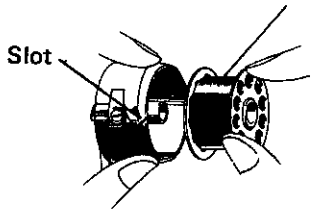
UPPER THREADING

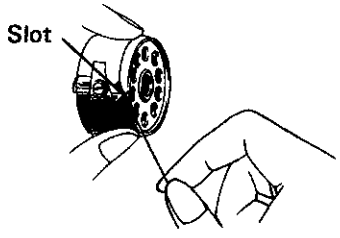
1. Turn the hand wheel towards you to raise the take-up lever to its highest position. Place the felt washers on the spool pins.
2. Place a spool of thread on the spool pin.
3. Lead the thread through the top thread guides.
4. Down and between the tension discs, from right to left.
5. Draw the thread up through the check-spring and, with a slight tug, into the hook. See diagram.
6. Up and through the eye of the take-up lever from right to left.
7. Lead the thread down through the thread guide at the bottom of the threading slot, then, through the thread guide on the needle clamp.
8. Thread the needle FROM FRONT TO BACK, and leave about 7 to 10 cm of thread. Hold the end of the upper thread to the left of the needle plate and turn the hand wheel towards you one complete revolution. Pull the thread loop which has been formed with the lower thread through to the upper surface. Place both thread ends under the presser foot and draw about 10 cm of both threads to the back.

In the case of twin needle sewing, place two spools of thread, matching or contrasting in colour, one on each spool pin, lead both threads through the top thread guides, bring the threads down and pass one thread between the back discs and the other between the front discs, then treat both threads as one until threading each thread through each eye of the twin needle.

THREADING THE BOBBIN CASE

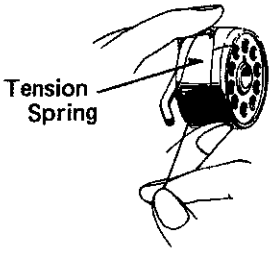
1. Hold the bobbin case between the thumb and forefinger of the left hand, so that the slot in the edge of the bobbin case is on top. Take the bobbin between the thumb and forefinger of the right hand so that the thread on top leads from left to right.
2. Insert the bobbin into the bobbin case, pull the thread into the slot of the bobbin case and draw it under the tension spring and into the fork-shaped opening of the spring.

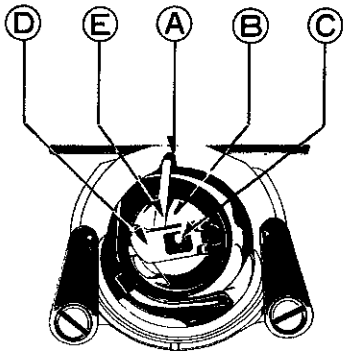




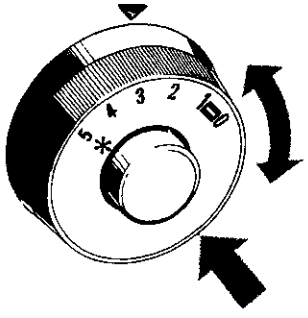
PLACING THE BOBBIN CASE IN THE ROTARY HOOK

Raise the needle bar to its highest position, and swing open the access cover, downwards. Hold the bobbin case latch (D) between the thumb and forefinger of the left hand, with at least 7 cm of thread running from the top of the bobbin case to the right. Insert and centre the bobbin case on the stud of the shuttle body (C). Make sure that the bobbin case finger (E) is opposite the shuttle race notch (A). Press the bobbin case (B) into the shuttle as far as possible until the latch catches on the centre post of the shuttle. Then release the bobbin case latch (D). Press the bobbin case again after the latch has been released to make sure that the bobbin case is locked securely in place. Close the access cover.





SELECTION OF THE STITCH:



STITCH LENGTH DIAL

The stitch length Dial is used to control the forward feed of the fabric for ordinary sewing.

At 0, the fabric is not fed at all. The shortest stitch is sewn when the dial is set near the buttonhole symbol ▮. 5 is the longest – about 4 mm per stitch on normal fabrics – but the dial may be set at any position desired between 0 and 5 for a variety of lengths, except when sewing superautomatic (stretch) stitches. The dial is then set automatically at the correct position when the superautomatic stitch knob is turned to the mark ✻ .

Turn the dial to the right to lengthen the stitches and to the left to shorten the stitches. The stitch length number chosen is indicated by the blue guide mark above the dial.

The stitch length for stretch stitches (superautomatic stitches) is set at about 2 mm on most kinds of fabrics with the superautomatic stitch knob at the ✻ mark.

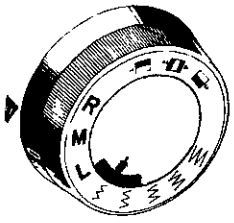
REVERSE BUTTON

If you wish to sew backwards to fasten the threads at the beginning or end of a seam, when doing ordinary sewing, press in the Reverse Button as far as it will go so that your machine sews in reverse at approximately the same stitch length as the forward stitch length. The machine will sew in reverse as long as the button is held in.

Table showing the numbers on the stitch length dial and the actual number of stitches per inch or length per stitch.

[illegible]	0	1	2	3	4	5
[illegible]	No Feeding	30	25	15	8	6
[illegible]	0	0.6	1.0	1.5	3.0	4

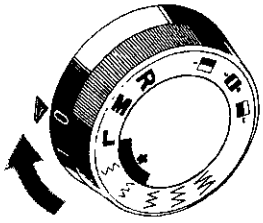
NEEDLE POSITION/STITCH WIDTH/ BUTTONHOLE DIAL



This dial is used for changing the needle position for the straight stitch, for adjusting the zigzag stitch width at the left needle position and for sewing the easy, built-in, four-step buttonhole.

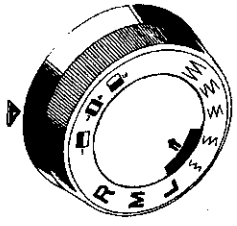
- **Needle Position:**

Three different needle positions, L-left, M-middle and R-right, can be selected. At the L, M or R positions, only straight stitches can be sewn. For sewing the zigzag and other stitch patterns, set the dial in the zigzag width control range. See below.



- **Stitch Width at the Left Needle Position:**

At (L), the needle does not swing and, therefore, a straight stitch seam is sewn, no matter which stitch is selected. With the dial at 1 or the narrow zigzag symbol, the needle takes a narrow swing resulting in a narrow column of stitching. At 5, or the widest zigzag symbol, the needle takes a large swing resulting in a wide column of stitches. When sewing with the twin needle, the dial should be set in the grey zone or less than 2½, otherwise the needle will hit the needle plate.



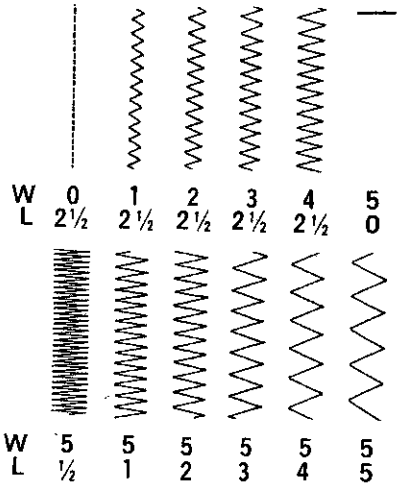
Note: It is mechanically impossible to turn the dial clockwise further than the widest stitch width position. Therefore, turn the dial counter-clockwise when changing from a stitch width to the four-step buttonhole position.

- **Buttonhole Control:**

When set at the first buttonhole symbol (step 1), your machine sews, forward, the left side of the buttonhole. With the dial at the next buttonhole symbol (2–4), your machine feeds the fabric for bartacking the buttonhole ends and, set at the third buttonhole symbol (3), it feeds the fabric in reverse to sew the right side of the buttonhole.

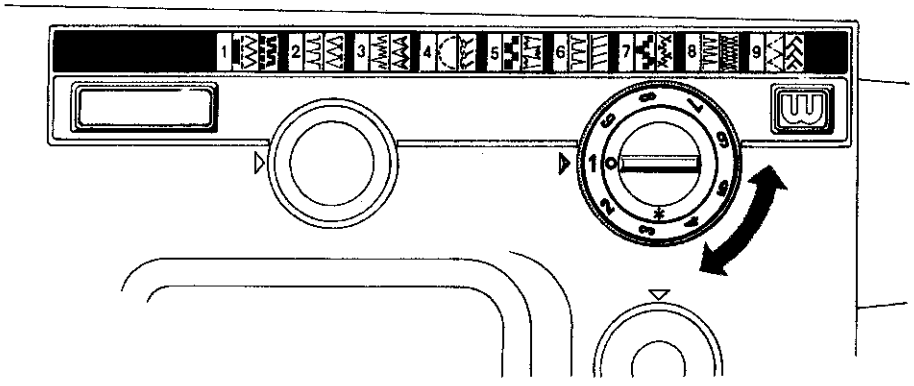
RELATING STITCH LENGTH TO STITCH WIDTH

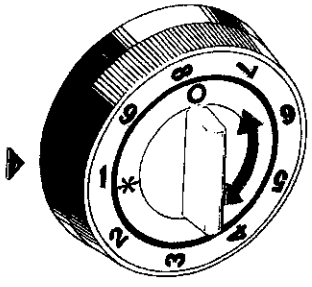
When the stitch width dial is set at one particular width (such as 5 for the widest zigzag), the stitch length dial will then determine how closely the stitches are sewn together. At length 0, the fabric does not move so that the stitches are formed one on top of the other, as is used when sewing on buttons. At the symbol ▮ or near 0, the fabric is fed through slowly resulting in a dense column of stitches known as a satin stitch. At length 5, a very long, open zigzag is sewn.



STITCH PATTERN SELECTOR

Including straight and zigzag stitches, 20 different kinds of normal and superautomatic stitches, as shown on the stitch pattern selection panel, can be selected. The numbers marked on the stitch pattern selector correspond with the numbers shown on the panel alongside each stitch pattern. For the normal automatic stitch patterns shown in the green boxes, set the superautomatic stitch knob at the green "○" position for forward sewing. For the superautomatic stitches, shown in the red boxes, set it at the red "✻" position for superautomatic, backwards and forwards (stretch) sewing, so that the stitch length dial is set automatically at the correct position.



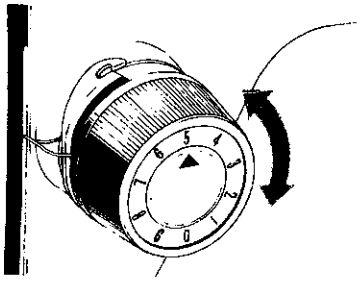


SUPERAUTOMATIC STITCH KNOB

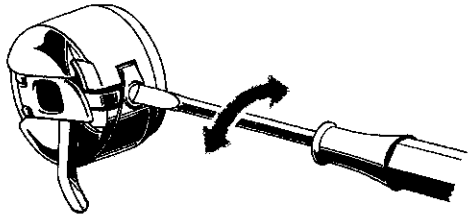
The selection of ordinary stitches and superautomatic stitches, or stretch stitches, is made by means of the superautomatic stitch knob. With the knob at the green "○" position, you can sew any of the stitches shown in green boxes on the pattern selection panel, by turning the selector to the respective number. With the knob at the red "✻" position, the stitch length dial is set automatically at the correct position and your machine sews whichever of the superautomatic stitches, shown in the red boxes on the pattern selector panel, has been selected, by means of a two forward and one backward stitch combination. The ability to sew a reinforced seam of superautomatic stitches that will stretch considerably more than the fabric itself is what is most often required of a sewing machine today. Its uses are almost unlimited and the more the machine is used the more this fact becomes evident.

CONTROLS:

ADJUSTING THE THREAD TENSIONS



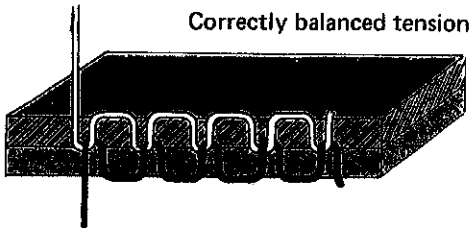
Always adjust the upper thread tension with the presser foot lowered, as the tension is released when it is raised. To increase the tension on the upper thread, turn the tension dial to the right. To decrease the tension, turn it to the left. Before adjusting the tension, make sure that the machine is threaded correctly. Normal upper tension is usually about 5.



The bobbin thread tension seldom requires adjustment. However, when the bobbin thread tension has to be changed, turn the small screw on the side of the bobbin case clockwise to tighten and counter-clockwise to loosen.

When both tensions are properly balanced, a perfect stitch will be formed with both threads interlocking in the fabric (A).
When the upper tension is too tight, the bobbin thread is pulled up over the upper thread which lays flat on the fabric (B).
When the upper tension is too loose, the upper thread forms loops over the bobbin thread lying flat on the fabric (C).
When the upper and bobbin thread tensions are balanced but the fabric is puckered in the case of sheer fabrics, both tensions are too tight. Slightly loosen both tensions evenly.

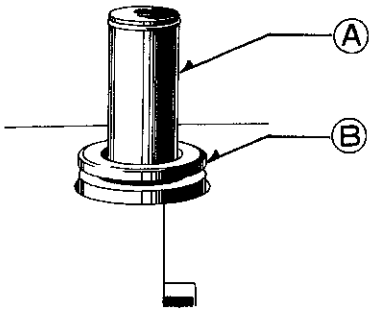
(A) Correctly balanced tension



(B) Upper tension too strong

(C) Upper tension too weak

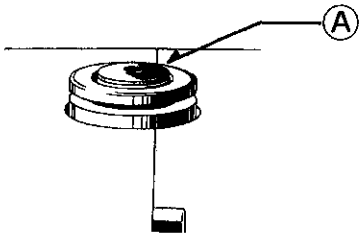
It is recommended to adjust the tension balance with a medium stitch length. In the case of satin stitching for buttonholes and embroidery slightly loosen the upper thread tension.

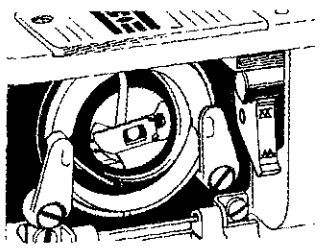


ADJUSTING THE PRESSURE ON THE FABRIC AND THE FEED DOG HEIGHT

- **General Sewing**

For normal sewing, except when sewing on very heavy and bulky fabrics, the centre pin (A) of the pressure control should be at its lowest position, with the feed dog height at the UP position, obtained by pressing the ⩚ part of the feed dog height button to the right of the rotary hook. For special fabrics, as mentioned above, reduce the pressure by half. To do so, press the outer ring (B) of the pressure control, then press the centre pin (A) down again, to the half-way position.





Fabric	Pressure on fabric	Feed dog height
Ordinary fabric with little elasticity:		
Heavy and bulky fabrics	Half	⩚
Medium and light weight fabrics	Full	(Up)
Very stretchy fabrics and knits:		
Heavy and bulky fabrics	Half	⩚
Medium, light weight and sheer fabrics.	Full	(Up)

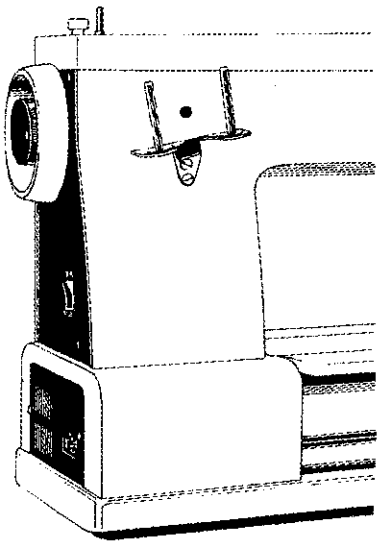
- **Mending and Darning**

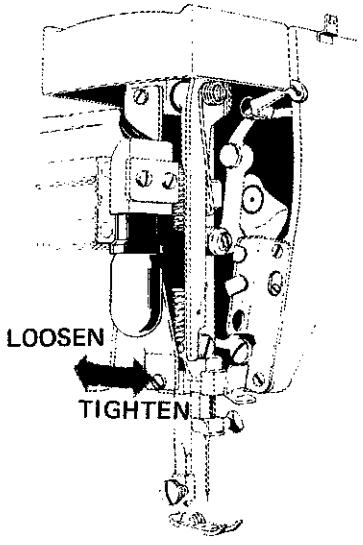
So as to be able to move the fabric freely in any direction for darning and mending, release the centre pin (A) completely by pressing down on the outer ring (B). Press the ⩚ mark on the feed dog height button so that the feed dog drops well below the needle plate. To raise the feed dog to its normal height, press the ⩚ (up) mark on the button.

SEWING LIGHT

The sewing light is located under the face cover, directly over the needle so as to illuminate the stitching area better. Turn the light on and off by means of the switch located on the right side of the machine.

To replace the bulb, disconnect the plug in accordance with the "Safety" recommendations on page 7. Then open the face cover to the left. Unscrew the bulb, place a new bulb in the socket and screw it into place.



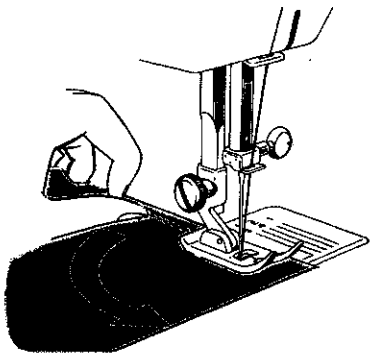


PREPARING TO SEW

Make sure that the take-up lever is at the highest position before starting to sew. Pinning may be used as a time-saver instead of hand basting. It is possible to sew over pins placed at right angles to the edge of the fabric, with the pin head at the raw edge, but, for best results, it is recommended that the pins be removed as you approach the presser foot. Sewing over pins can result in damaged needles.
Place the material and the threads under the presser foot. Lower the presser foot. Lower the needle by turning the hand wheel by hand to check that the needle will pierce on the line along which you wish to make a seam. You are now ready to start sewing. Press on the speed control. The speed of the machine is governed by increasing or decreasing the amount of pressure exerted on the foot control. Never run the threaded machine without first placing material under the presser foot.

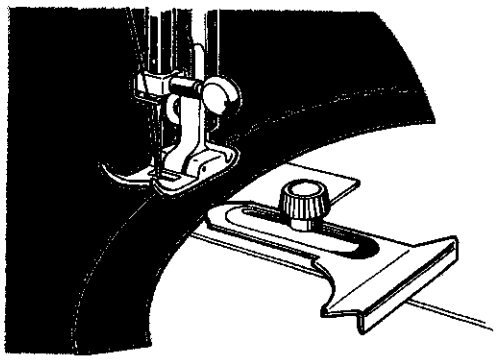
GUIDING THE FABRIC

The needle plate is etched with lines at 5 mm intervals, measured from the middle needle position. The edge of the fabric should follow the etched line which gives the seam-to-edge distance required. During sewing, observe this line rather than the needle. To facilitate guiding the fabric, put the cloth guide attachment in place, attaching it to the bedplate of the machine by means of the extra thumbscrew. The cloth guide and extra thumbscrew are included in the accessory box.
Do not pull the material during sewing as this may bend the needle and cause it to break.



TURNING CORNERS

To pivot at a corner, leave the needle in the fabric while on the upswing. Lift the presser foot, pivot the fabric, then lower the presser foot and continue sewing.

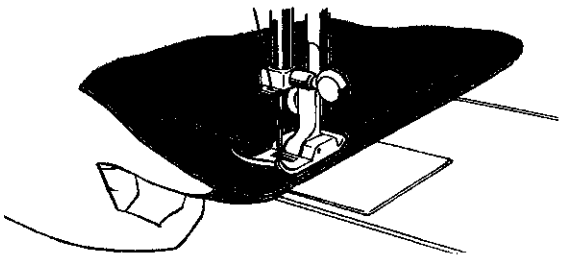


CURVED SEAMS

Use a slightly shorter stitch length than that used for the rest of the seams. Wherever a stretchable seam is required, use a stretch stitch. The cloth guide may be used on an angle, as shown.

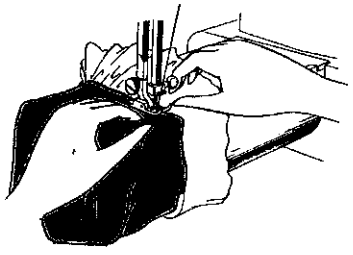
SEWING ACROSS HEAVY SEAMS

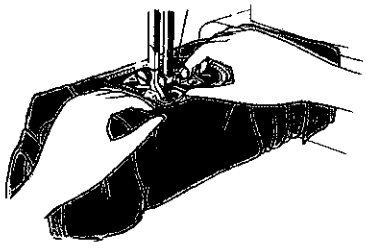
When approaching a heavy seam, hold the fabric upwards at an angle so that the heavy seam glides easily under the front curve of presser foot.



FREE-ARM SEWING

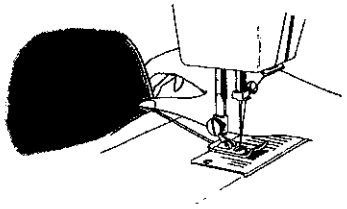
For sewing tubular and hard-to-reach areas, use your machine as a free-arm machine. Sewing buttonholes or sewing buttons on a cuff or neckband; topstitching a sleeve; edge finishes on sleeves, trouserlegs and waistlines; darning and patching knees, elbows and other areas subject to wear on children's clothing are easy when you use the free arm.

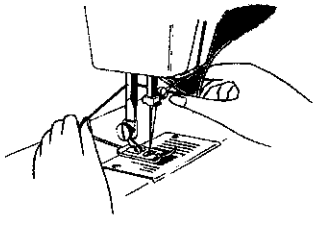




REMOVING THE WORK

Stop the machine when the take-up lever or needle bar is at the highest position.
Now raise the presser foot and draw the fabric back and to the left and pass the threads over the thread cutter. Pull down the threads slightly, holding them in both hands, so as not to bend the needle.
Leave the ends of the threads under the presser foot.





STRAIGHT STITCH:

Pattern: 1
Length: 2–3
Needle Position/Width: M
Feed Dog: Up(△△)
Pressure: Full
Foot: Straight Stitch or All Purpose
Superauto Knob: ○

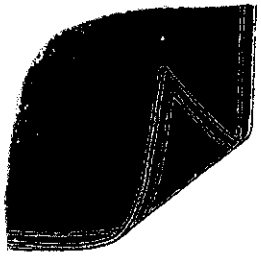
SEAMS

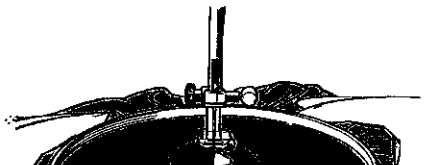
The normal stitch length for most fabrics is between 2–3 on the stitch length dial but the length chosen will depend on the fabric and area of usage. Usually, heavier fabrics require longer stitches, and lighter weight fabrics require shorter stitches. For curved seams and bias cut areas, use a shorter stitch length. Be sure to set the needle position dial at M.

Pattern: 1
Length: 4–5
Needle Position/Width: M
Feed Dog: Up(△△)
Pressure: Full
Foot: Straight Stitch
Superauto Knob: ○

BASTING/TOPSTITCHING

Sewing a seam with a longer stitch is useful for temporary seams prior to fitting. Basting stitches may also be used when gathering in fullness.
Topstitching can be done very effectively with the long straight stitch. For a bolder stitch, two threads of the same type can be threaded through one needle (size 90 or 100). A heavier thread, such as buttonhole twist may be used for topstitching, but be sure to use a larger needle (size 100 or 110).





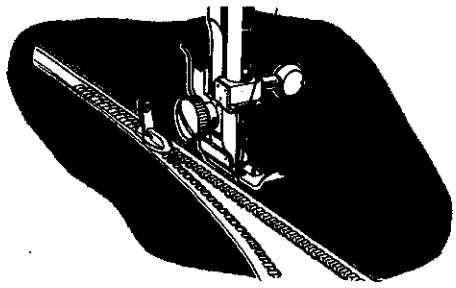
DARNING

Worn spots or small holes can be darned very easily. Use of an embroidery hoop is optional depending on the fabric. A fine thread is recommended so that the fabric and thread will blend together invisibly. Trim the ragged edges from the area to be darned. Hold the threads to start, then move the fabric slowly back and forth while running the machine very fast to fill the area. Professional results will be obtained by moving the fabric in a figure eight pattern while sewing. After filling in the area lengthwise, reweave with crosswise stitches in the same manner.

Pattern: 1
Length: 0
Needle Position/Width: M
Feed Dog: Down (▽▽)
Pressure: 0
Foot: All Purpose or Straight Stitch
Superauto Knob: ○

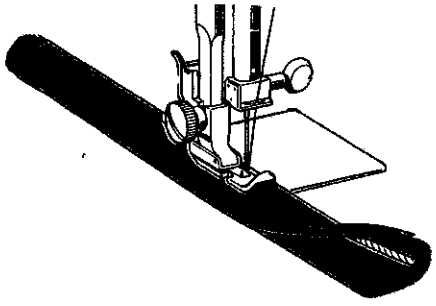
CORDING AND ZIPPER FOOT

The cording and zipper foot is used to sew in zippers and insert cording.



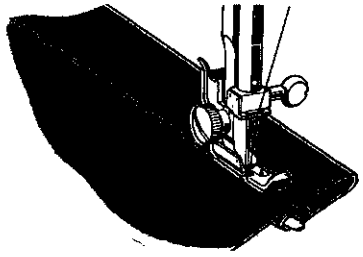
Zipper:

Set the needle position at "L" or "R" as needed to sew the right or left side of the zipper respectively, so that the foot sews very close to the teeth of the zipper.



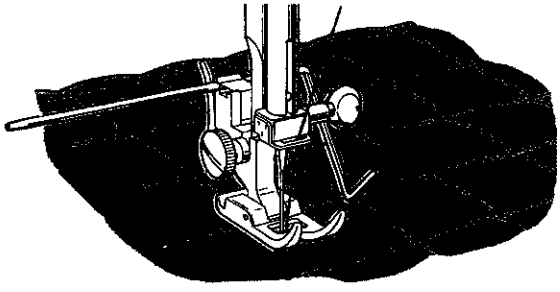
To insert cording:

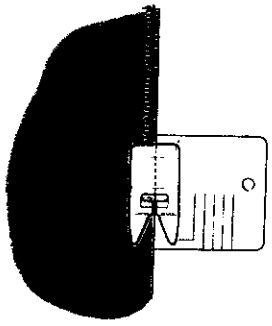
1. Set the needle position at "R" and make the welting by sandwiching the cord into a bias strip of fabric. Stitch close to the cord.
2. Set the needle position at "L". Sandwich the welting between two layers of fabric with right sides together. Stitch a second time. The needle stitches close to the cord through all thicknesses.



QUILTING GUIDE

Parallel straight lines are easy to sew with the quilting guide. To attach the guide, slide it into the black clip at the back of the presser foot shank. Adjust the curved bar to the desired distance from the needle. Sew the first line of stitching as desired, and then, for the successive rows, follow the previous line of stitching with the guide. A straight stitch, zigzag, or any other stitch may be used.



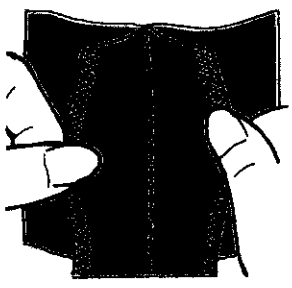


Pattern: 1
Length: 1–3
Width: 5
Feed Dog: Up(⧋)
Pressure: Full
Foot: All-Purpose
Superauto Knob: O

ZIGZAG STITCH:

OVERCASTING

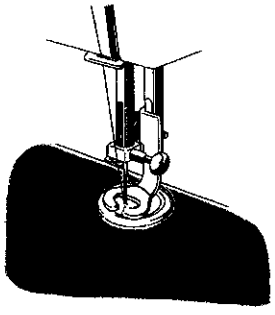
Place the edge of the material underneath the opening of the sewing foot and guide the raw edge along the centre slot of the foot allowing the stitch to form half on and half off the fabric.
The three-stitch zigzag is a wiser choice for most fabrics. See Page 29.

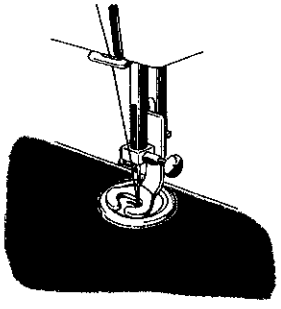


Pattern: 1
Length: 1–3
Width: 1
Feed Dog: Up(⧋)
Pressure: Full
Foot: All-Purpose
Superauto Knob: O

SEWING KNITS

The narrow zigzag can be used for seams in firm knits for added strength. After sewing, open the seam and press it flat. Tiny zigzag stitches can hardly be seen and the seam will give when stretched.
Generally on knits, however, try the elastic triple seam or special stretch stitches. See page 35.





Pattern: 1
Length: 0
Width: L & 2–5
Feed Dog: Down (⧊)
Pressure: Full
Foot: All-Purpose or Button Foot (Special Attachment)
Superauto Knob: O

SEWING ON BUTTONS

Place the button so that its left hole is directly under the needle when the latter makes its left zigzag swing. Then, gently lower the button foot. Sew a stitch in the hole.
Raise the needle from the left hole and move the zigzag width dial to the right, until the needle is exactly over the right hole in the button.

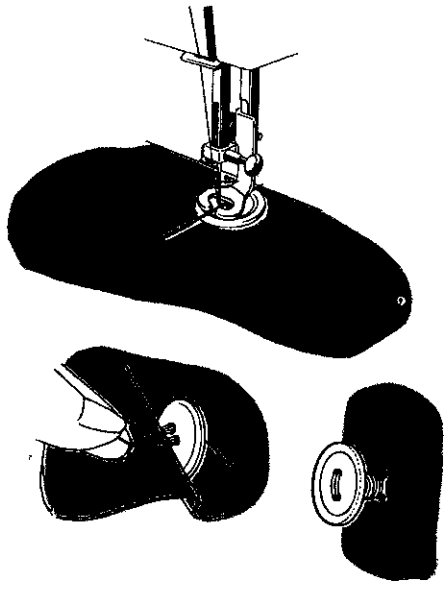
Note: Make sure that the needle clears the holes of the button by moving the wheel by hand before running the machine fast.

Usually, 6 to 8 stitches are sufficient to sew a button in place. Stop with the needle in the left hole. To lock the threads, set the stitch width at 0 and sew a few stitches in the left hole.

- **With a Thread Shank**

Buttons sewn on coats or jackets should have a thread shank to make them stand away from the fabric. To form a thread shank, sew over a pin or rounded toothpick.

After sewing the button to the fabric, remove the work from under the presser foot, pulling away about 15 cm of thread at the same time. Remove the pin or toothpick. Pull the threads to the back of the button and form a shank between the button and the fabric by winding the threads tightly around the attaching stitches. Pull the threads to the back of the fabric and tie the thread ends securely.

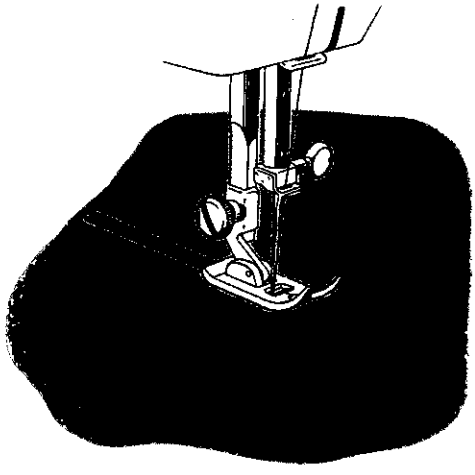


SATIN STITCHING

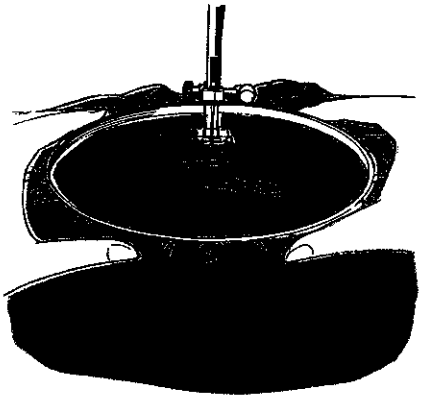
This is useful for decoration such as tapering, free-hand embroidery, monogramming and applique work.

The satin stitch, which is really just a very close zigzag stitch, is obtained by setting the stitch length as near to "0" as possible without stopping the feeding action or at the symbol ▮. The setting will vary according to the fabric. It may be desirable to loosen the upper tension slightly so that the threads lock underneath, in order to make the top surface look especially smooth. For lightweight fabrics, place a piece of paper underneath the fabric for best results.

Pattern: 1
Length: ▮
Width: 1–5
Feed Dog: Up(⩓)
Pressure: Full
Foot: All-Purpose
Superauto Knob: O



Pattern: 1
Length: 0
Width: 1–5
Feed Dog: Down(△△)
Pressure: 0
Foot: All-Purpose
Superauto Knob: ○



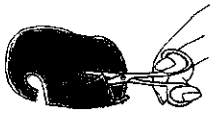
FREEHAND MONOGRAMMING

To give garments and linen a personal touch, first transfer the design to the right side of the fabric. An embroidery hoop is recommended, especially for soft fabrics and towelling.

In order to monogram, you must move the fabric slowly and run the machine fast. Monogramming is like writing by moving the paper under a stationary pen. Guide the fabric slowly so that the zigzag falls close together like a satin stitch, but be careful that the stitches do not pile up. When guiding from side to side, move the fabric slightly faster to avoid a heavy area. Practise by forming loops. Once this is accomplished, any letter is easy.

Sometimes the use of paper or non-woven interfacing under the fabric may make guiding the fabric easier. The paper or interfacing may be torn or cut away after completing the monogram. When monogramming towels, a plastic film placed on the top will help cover loops and make the monogram smooth. Pull or cut away the remaining plastic film when finished.

Step 1:
Pattern: 1
Length: 1
Width: 0–2
Feed Dog: Up (△△)
Pressure: Full
Foot: All-Purpose
Superauto Knob: ○

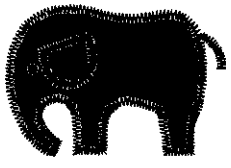


APPLIQUE WORK

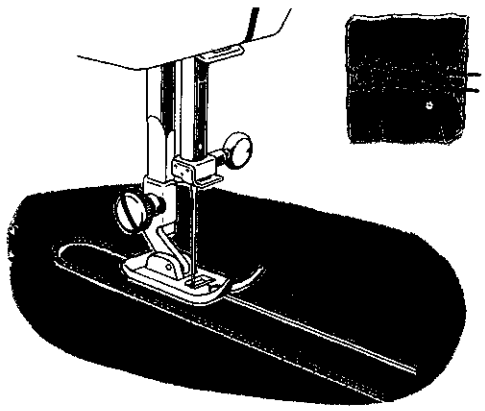
Applying decorative shapes of fabric scraps to household articles and clothing is a very interesting way of trimming an otherwise plain article. First, trace the design on the fabric to be appliqued, then pin or baste it securely in place on the garment. With a small straight stitch or narrow zigzag, sew around the transferred design.

After the excess fabric has been trimmed away, sew around the applique with a satin stitch. For a smooth curve, stop frequently at the inside edge of the curve then pivot the fabric slightly. Corners look much better when the point is stitched by pivoting rather than just turning. As with all decorative stitches, paper may be used to give more body to the fabric when sewing and can be torn away when the applique has been completed.

Step 2:
Pattern: 1
Length: 1/4–1/3
Width: 2–5
Feed Dog: Up (△△)
Pressure: Full
Foot: All-Purpose
Superauto Knob: ○



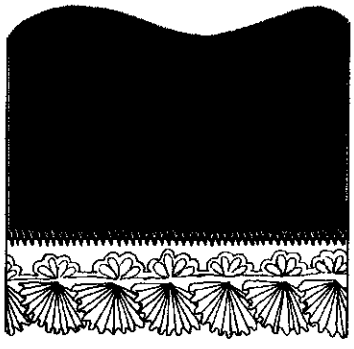
GATHERING OVER A CORD



Ordinary gathering with a basting stitch often breaks while pulling in fullness. A small zigzag across a cord such as crochet thread or carpet thread, gives a much stronger cord for gathering fullness into fabrics. Once the gathers have been stitched in place, the cord can be pulled out in order to eliminate bulk.

Pattern: 1
Length: 2
Width: 2–3
Feed Dog: Up (△△)
Pressure: Full
Foot: All-Purpose
Superauto Knob: ○

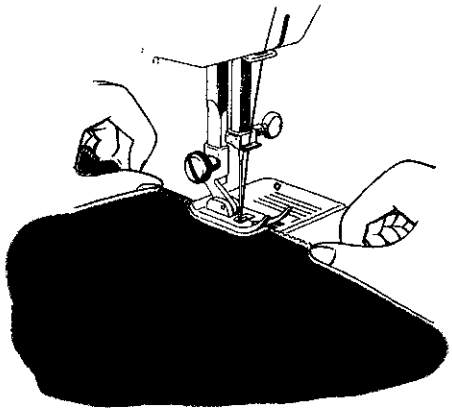
LACE APPLICATION



Attaching lace or trims adds a special touch to lingerie, dresses, or linens. Pin or baste lace in place, easing or mitering corners where necessary.
A straight edged lace or braid has a convenient line to follow when sewing. When using a scalloped edged lace, follow the design of the lace for an almost invisible application.

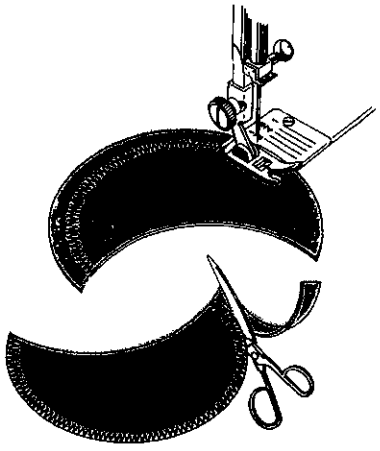
Pattern: 1
Length: ½–1
Width: 1–3
Feed Dog: Up (△△)
Pressure: Full
Foot: All-Purpose
Superauto Knob: ○

FLUTTER HEM



An unusual way of hemming or finishing edges of tricot or soft knits is with a flutter edge. Hemming in this manner is just like overcasting an edge, but the fabric is stretched behind and in front of the needle as you sew. For best results, pull the fabric equally, making sure the needle goes over the edge. When you stop to reposition your hands, keep the needle in the fabric.

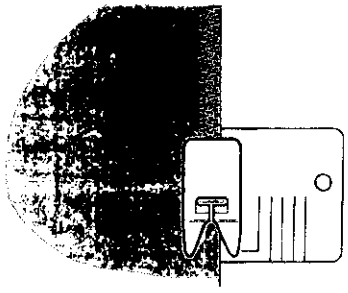
Pattern: 1
Length: ¼–½
Width: 4–5
Feed Dog: Up (△△)
Pressure: Full
Foot: All-Purpose
Superauto Knob: ○



SEWING TIPS

When a dainty, hair line finish is particularly desirable for the inside seams of sheer collars, facings, and yokes, a seam allowance that would ordinarily show through is eliminated by following the seam outline with a narrow zigzag stitch. Trim the seam allowance close to the line of stitching. Turn and press.

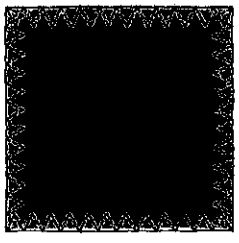
Pattern: 1
Length: ½–1
Width: 1–2
Feed Dog: Up(⩓)
Pressure: Full
Foot: All-Purpose
Superauto Knob: O



THREE-STITCH ZIGZAG

The three-stitch zigzag can be used for hundreds of sewing applicatons, such as replacing worn blanket bindings, for both decorative and durable finishes, overcasting an edge to prevent fraying, applying elastic waist bands to skirts and dresses, sewing a zigzag stitch on soft or sheer material to prevent puckering, etc. Just sew like ordinary zigzag stitching.

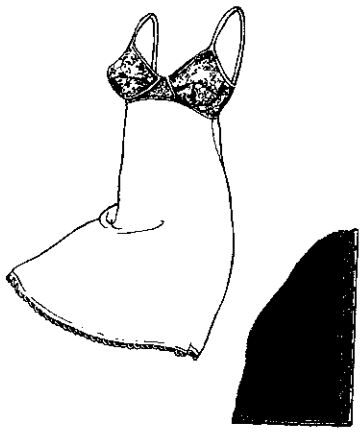
Pattern: 9
Stitch Length: ½–2
Width: 3–5
Feed Dog: Up(⩓)
Pressure: Full
Foot: All-Purpose
Superauto Knob: O



INTERLOCK STITCH

The interlock is used for a very fine, delicate seam in nylon tricot or jersey. The finished width of lingerie or tricot seams should only be about 3 mm. Sew in the same way as ordinary zigzag stitching. The shell tuck on soft knits is also produced with this stitch by swinging the zigzag to the right of the folded edge of the fabric, with the bulk of the fabric to the left.

Pattern: 8
Length: 2
Width: 3–5
Feed Dog: Up(AA)
Pressure: Full
Foot: All-Purpose
Superauto Knob: ○

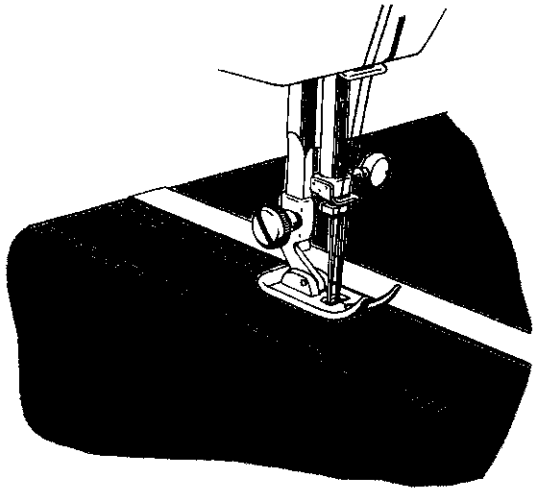


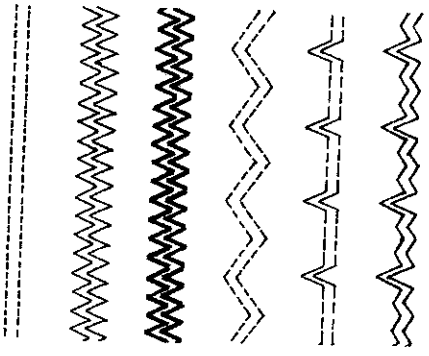
TWIN NEEDLE SEWING

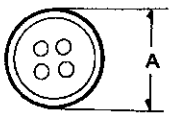
Attractive parallel straight stitch effects and decorative zigzag patterns can be made easily by sewing with the twin needle (system HZ x 9/NE 2.0 mm). They are very effective for various kinds of garment finishes, such as top-stitching, borders, etc. With the exception of buttonhole stitches, all built-in special stitch patterns can be sewn using the twin needle. When sewing with the twin needle, the stitch width control should be set at a lower number than 2½, or in the grey zone, and the needle should be at the left needle position. The use of color-matched or contrasting threads will result in a more attractive finish.

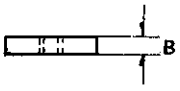
Note: Use the left needle position and the zigzag needle plate when sewing with the twin needle.

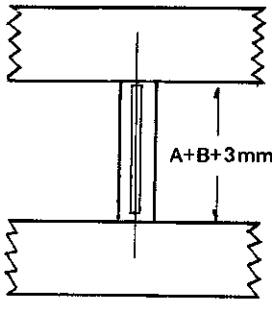
Pattern: Any
Length: 1–5
Width: L or less than 2½
Feed Dog: Up (AA)
Pressure: Full
Foot: All-Purpose
Superauto Knob: ○ or ✳

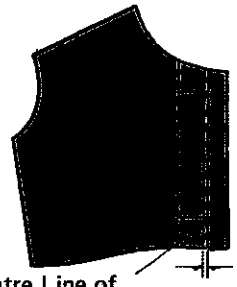


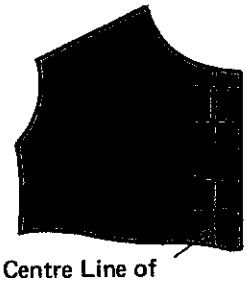












BUTTONHOLES:

Various fabrics require various methods of sewing buttonholes. Four different methods are given below, with suggested uses. If you are in doubt as to which method is best for your fabric, test the methods in question and choose the best according to the finished appearance.

PREPARATION

For the best results, a good quality mercerized cotton thread should be used. Polyester threads often result in puckered or heavy, unattractive buttonholes. The finer your fabric is, the finer your cotton thread should be.
An interfacing should be used under the buttonholes to give body, to strengthen, and to help them withstand wear.

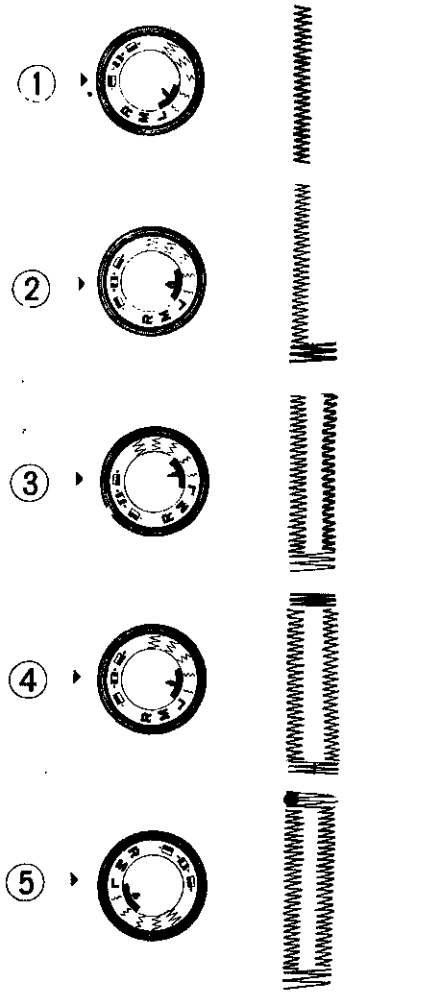
To establish the correct length of the buttonhole, add the length of the button (A), plus the thickness of the button (B), plus 3 mm for the bartacks. The length may be marked on the garment with a basting stitch, tailor's chalk, or transparent cellophane tape, as shown. Horizontal buttonholes should extend 3 mm beyond the centre line of the garment. Vertical buttonholes are placed so that the cutting space of the buttonhole is directly on the centre line.

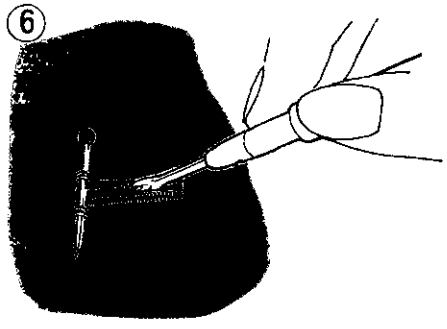
Always make a practice buttonhole on a scrap of the garment fabric before making any buttonholes on your garment. On your test sample, duplicate the thicknesses found in the garment and be sure to include the interfacing. The test sample should help determine the length needed for the button to pass through the hole easily and the stitch length needed for the particular fabric. As with the satin stitch, the stitches should be close together, but not so close that they pile up. Be sure to use the buttonhole foot.

BUILT-IN BUTTONHOLE

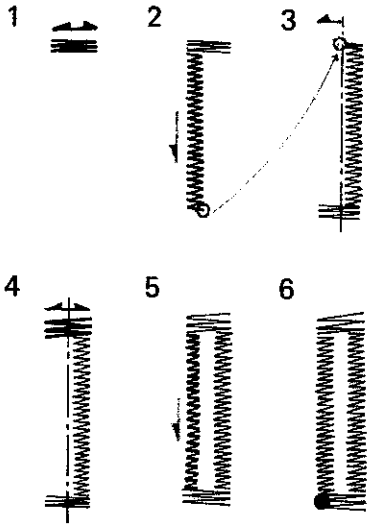
This buttonhole makes it unnecessary to pivot the fabric. It is used most often on light and medium weight woven fabrics. The stitch length dial should be turned to the "BUTTONHOLE" symbol or near 0 so as not to stop the feeding action. A buttonhole with a width of about 5 mm can be made simply by turning the stitch width/buttonhole dial from buttonhole position 1 to 2, 3 and 4 consecutively.

1. Set the stitch width/buttonhole dial at the red square marked (1), buttonhole position. Lower the needle into the mark indicating the top left end of the buttonhole. Lower the presser foot and sew the left side of the buttonhole until the bottom is reached.
2. With the needle out of the fabric and the dial set at the (2-4) position, sew a few stitches to bartack the bottom end of the buttonhole.
3. With the needle out of the fabric, turn the dial to the (3) position. Sew the right side of the buttonhole. At this position the machine is feeding in reverse.
4. With the needle out of the cloth, turn the dial again to the (2–4) position and complete the buttonhole by bartacking the top edge.
5. To lock the stitches, make sure that the needle is out of the fabric, set the dial at L and the feed dog at the down position. Then sew a few stitches.
6. To prevent cutting through the bartack accidentally, insert a pin through the bartack. Cut open the buttonhole.

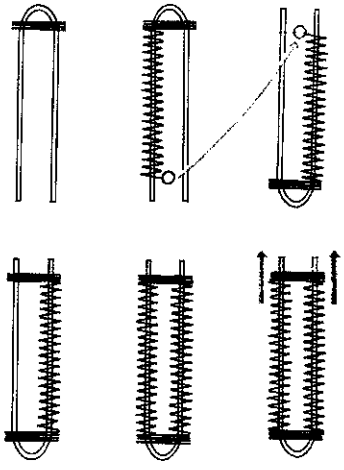




Pattern: 1
Length: Buttonhole
Width: 1 2-4 3 2-4
Feed Dog: Up (AA)
Pressure: Full
Foot: Buttonhole Foot
Superauto Knob: O



Pattern: 1
Length: Buttonhole
Width: 5–2–5–2–0
Feed Dog: Down-Up-Down-Up-Down
Pressure: Full
Foot: Buttonhole Foot
Superauto Knob: ○



Pattern: 1
Length: Buttonhole
Width: 5–2–5–2–0
Feed Dog: Down-Up-Down-Up-Down
Pressure: Full
Foot: Buttonhole Foot
Superauto Knob: ○

TURN-AROUND BUTTONHOLES

1. Place the material under the presser foot to sew the top of the buttonhole at the position desired. Drop the feed dog (⧊), set the stitch width dial at 5 and sew a few stitches to bartack the end of the buttonhole.
2. Raise the feed dog (⧋), set the stitch width dial at 2, then sew down the left side of the marked buttonhole and finish stitching with the needle in the fabric at the right side of the stitches.
   Set the feed dog at DOWN (⧊).
3. Raise the presser foot and pivot the fabric, then lower the presser foot and sew one stitch to the left, turning the hand wheel by hand.
4. With the stitch width dial at 5, sew a few stitches to bartack the other end of the marked buttonhole.
5. With the feed dog UP and the stitch width at 2, sew down the other side of the marked buttonhole.
6. Lock the threads by sewing a few stitches at 0 width with the feed dog DOWN. Cut open the buttonhole carefully so as not to cut into the stitches, as illustrated on page 32.

- **Reinforced Buttonhole**

Use the Elastic Blind Stitch for reinforcing buttonholes.

CORDED BUTTONHOLES

Cording gives a reinforced, raised buttonhole. It is excellent for use on bulky, woven fabrics, or knits in which the stitching often gets buried and makes cutting difficult. On knits, a corded buttonhole will help keep the fabric from stretching out of shape.

Choose a heavy cotton crochet thread or buttonhole twist for the cording. Proceed as for the turn-around buttonhole, placing the cord under the foot in such a way that the zigzag stitch covers the cord.

After completing the buttonhole, snip the excess cord close to the bartack on woven fabrics. For knitted garments, always pull the cords through to the wrong side, using a darning needle or needle threader, and knot the cord ends before clipping.

BLIND HEM & ELASTIC BLIND-STITCHES

The blind hem or elastic blind stitch provides a durable hem finish that is almost invisible on garments, drapes, and curtains. It is sewn easily on straight or slightly curved hems. With a little practice, hems will be sewn quickly and easily and will never need repairing.

Procedure:

(1) Prepare the raw edge of the hem in the desired manner, such as overcasting, 5—7 mm stitched under, pinked, hem tape, or just plain. (Step 1)

(2) Fold the hem up to the desired length. Baste or pin 10—13 mm from the upper edge. Press in place. (Step 2)

(3) Fold the hem back towards the right side of the fabric, leaving an overlap of about 5—7 mm. (Step 3)

(4) Guide the fold of the fabric into the centre cut of the presser foot so that the wide zigzag bite of the stitch just catches the fold of the fabric. The straight stitches of the blind hem stitch or the narrow zigzag stitches of the elastic blind stitch should be formed on the single thickness of fabric, and the wide zigzag width bite should just catch the fold of the fabric at the left.

(5) When stitching is completed, remove the fabric from the machine and turn to the right side. Press the completed hem.

When hemming an A-line skirt, sew a machine basting stitch along the raw edge of the hem. Fold up the hem on an ironing board, matching the seams. Ease in the excess fabric by pulling on the basting thread. Press with steam, then apply a hem tape. Baste or pin the hem 10—13 mm from the taped edge, then continue into step 3.

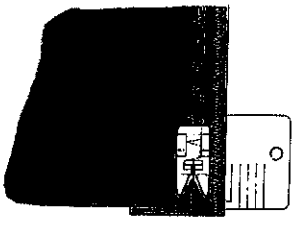
Pattern: 2 or 3
Length: 2—3
Width: 3—5
Feed Dog: Up (△△)
Pressure: Full
Foot: All Purpose
Superauto Knob: ○

Step 1

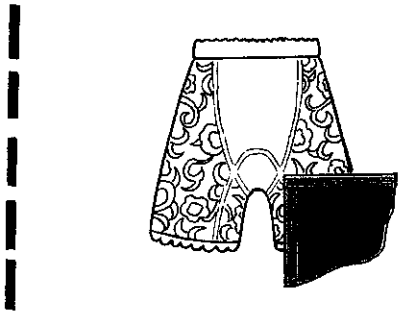
Step 2

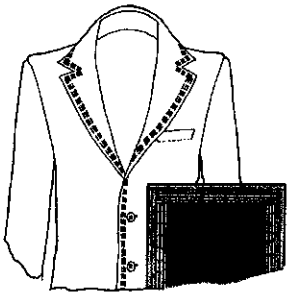
Step 3

Step 4

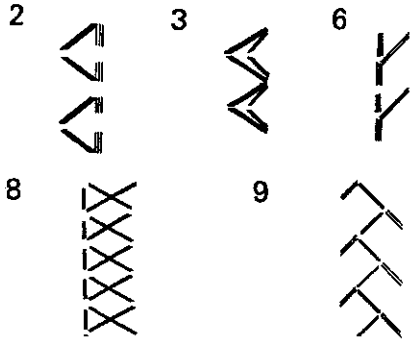


Step 5





Pattern: 1
Length: Automatic Setting
Width: 2–5
Feed Dog: Up (⩓)
Pressure: Full
Foot: All purpose
Superauto Knob: ✻



SUPERAUTOMATIC (STRETCH) STITCHES:

ELASTIC TRIPLE SEAM

This stitch may be used on knits and woven fabrics, in areas of stress, as a reinforcement stitch. It is excellent for curved seams such as armhole and crotch seams. For active wear such as ski pants and girdle fabrics which must withstand a lot of stress in bending and stretching, this stitch may be used for seaming throughout the garment. With the superauto knob at the " ✻ " position, sew in the same manner as for ordinary sewing.

CAUTION – This stitch is difficult to undo. Pre-fit a garment before using this stitch.

- **Topstitch Effect**

Because this stitch is heavier than an ordinary straight stitch, it is ideal for topstitching, particularly on knits.

Pattern: 1
Length: Automatic Setting
Width: M
Feed Dog: Up (⩓)
Pressure: Full
Foot: Straight Stitch or All-Purpose
Superauto Knob: ✻

TRIPLE ZIGZAG

This is a most common triple back-and-forth zigzag stitch for decorative uses, with more elasticity than the regular zigzag.

STRETCH OVERLOCK, ELASTIC EDGING, STITCH-AND-OVERCAST, OVERLOCK, & FEATHER STITCHES

These stretch stitches are best for seaming, overcasting, edge-stitching and decorative effects on both woven and knit fabrics such as lingerie, sweater knits, bathing suit knits, cotton knits, or gauze type fabrics.

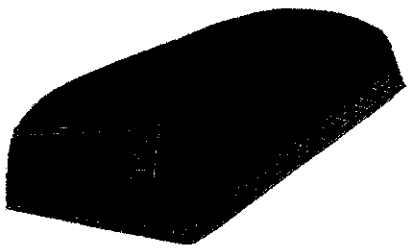
Pattern: 2,3,6,8,9
Length: Automatic Setting
Width: 5
Feed Dog: Up (⩓)
Pressure: Full
Foot: All Purpose
Superauto Knob: ✻

APPLICATIONS:

On most knits, finished 5 mm seams, such as stretch overlock and other superautomatic stretch stitches, are better than a wide open seam allowance. These stitches give a neater, more professional finish, eliminate bulky seams, prevent curling, allow the garment to give under stress and, at the same time, they reduce the amount of work involved in making a garment. If ever in doubt as to which of these stitches to use, test them on the particular fabric in question and choose the stitch which gives the best performance. Their uses are almost unlimited and the more you use your machine the more this will become apparent to you.

- **Elastic Application**

Fold the fabric over the elastic and sew the elastic and fabric at the same time, using the stretch overlock, elastic edging or another special stretch stitch. The double layer of fabric next to the seam should be sewn in place with one side of the stitch and the elastic with the other side.

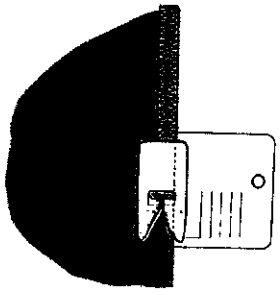


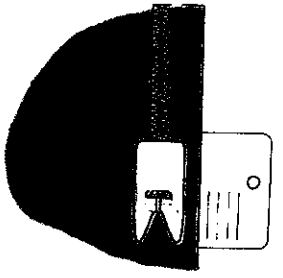
- **Overlock Application**

Special stretch stitches are also very suitable for overlock stitching on both woven and knitted fabrics.

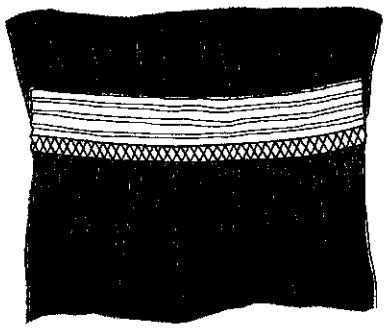
(A) Place the raw edge of the fabric under the presser foot so that, as the needle swings to the right, it descends at the raw edge. This will result in an enclosed seam allowance.

(B) The seam allowances may be trimmed to 5 mm either before or after sewing. If trimmed before sewing, proceed as above. Otherwise, sew the seam with the raw edge of the fabric on the etched guide line at 1 cm from the needle hole. (Whenever you use the full width of a particular stitch, readjust the raw edge of the fabric at 3 mm to the left). Afterwards, trim off the excess fabric near the stitching. This method is actually easier than the over-edge method in the case of fabrics that curl.

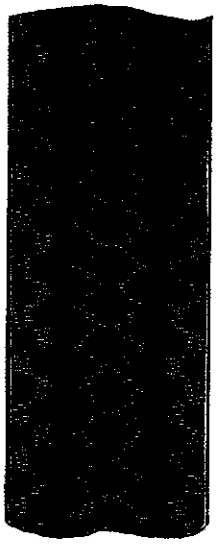




Note: On soft, loose knitted fabrics, the fabric may wave or ripple. If this occurs, reduce the pressure on the fabric.



(C) Applying Elastic
The special stretch stitches give a very good finished appearance to elastic application.



DECORATIVE STITCHES

Shown below are stitches that are very useful for decorative stitching and edging on both woven and knitted fabrics.

Pattern	Superauto Knob: ○		Superauto Knob: ✻	
4.		Scallop		Decorative Stitch
5.		Domino		Crown
7.		Checker		Cross

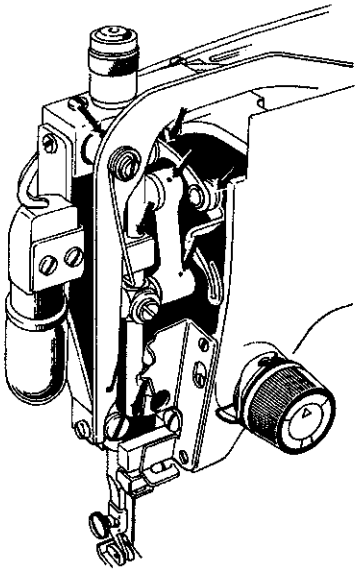
(Disconnect the machine in accordance with the "Safety" recommendations on page 7).

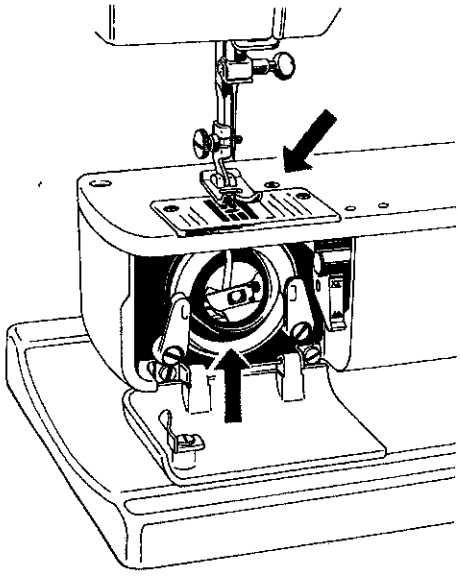
OILING THE MACHINE

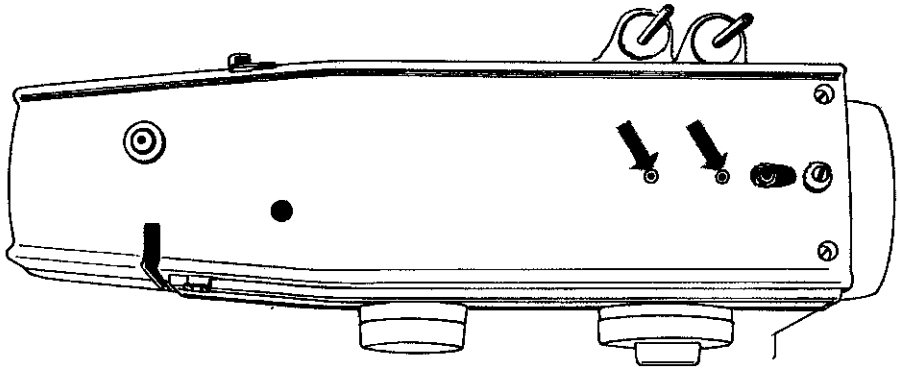
Use only a good sewing machine oil, not a common household oil.

Your machine should be oiled occasionally to ensure that it runs smoothly. How often you oil it will depend on the amount of sewing you do. Once a month, oil your machine thoroughly, as indicated by the arrows on the illustrations, especially at the points marked in red on the machine.

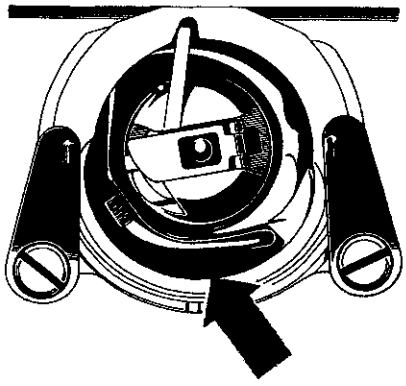
Use a single drop of oil only to avoid over-oiling. After oiling, completely wipe off the excess oil as it could soil the fabric during the course of sewing.







CLEANING AND OILING THE SHUTTLE RACE AREA



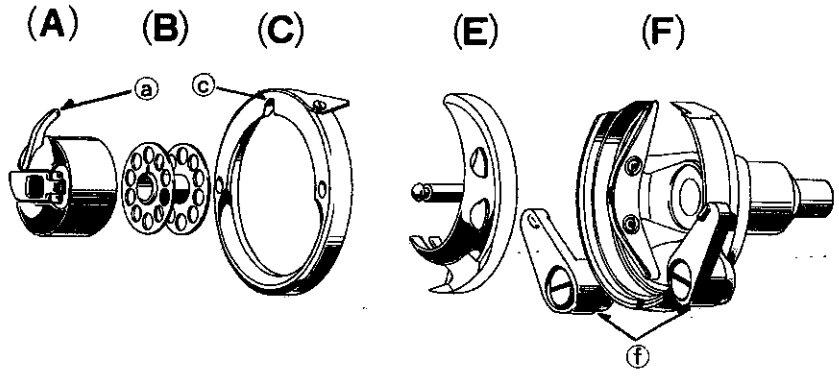
The stitch forming mechanism occasionally becomes clogged with pieces of thread and lint. This will hamper the efficient operation of the machine. Cleaning and removal of lint will ensure satisfactory performance.

To remove the shuttle race assembly, proceed as follows:

1. Turn the hand wheel until the needle reaches its highest position. Open the access cover.
2. Remove the bobbin case (A).
3. Turn the two race cover clamps ⓕ outwards and remove the race cover (C) and the hook body (E).
4. Clean the race, the hook and the race cover to remove all dirt, threads, lint, etc.

When the cleaning has been completed, proceed as follows to replace the shutte race assembly:

1. Turn the hand wheel until the needle reaches its highest position.
2. Fit the hook body (E) in the race (F) against the hook driver and adjust into position.
3. Replace the race cover (C), fitting the pin at the lower edge into the notch, and lock into position with the race cover clamps ⓕ , making sure that the clamps have snapped securely into place.
4. Put the bobbin (B) into the bobbin case (A).
5. Put the bobbin case into the hook, fitting the tongue ⓐ into the notch ⓒ of the race cover (C).
6. Place a single drop of oil on the hook body, as indicated by the arrow on the above illustration.
7. Wipe off all the excess oil completely.



PROBLEM AND REMEDIES

The machine sticks	Thread or lint in the rotary hook.	Clean and oil the machine and the rotary hook area (see page 39).
Skipped stitches	Bent needle	Replace with new needle (see page 10).
	Needle placed incorrectly in the clamp.	Fit the needle correctly (see page 10).
	Too fine a needle for the thread being used.	Replace the needle or thread so that they are correctly matched (see page 9).
	Too stretchy fabric.	Place a piece of paper beneath the fabric, or use the Ball Point Needle.
Irregular stitches	Upper thread tension too loose.	Tighten the upper tension
	Incorrect threading	See threading instructions, page 13.
	Bobbin not wound evenly.	Adjust the bobbin winder (see page 12).
Uneven stitches	Material is being held back or pulled.	Avoid pulling or holding the material,just guide it.
	Upper thread tension not tight enough.	Increase the tension.
	Poor quality thread.	Try a different thread.
	Needle too fine for the thread being used.	See the needle and thread chart, page 9.
Upper thread breaks	Incorrect threading.	Refer to the threading instructions on page 13 and rethread the machine.
	Tension too tight.	Loosen the upper thread tension (see page 18).
	Sewing is started with the take-up lever in the wrong position.	Always start sewing with the take-up lever in its highest position.
	Needle fitted incorrectly.	Refer to the needle fitting instructions on page 10.
	Eye of the needle bent or too sharp.	Try a new needle.
	Bent or blunt needle.	Throw away all blunt or bent needles and replace with new needles.
Material puckers	Tensions too tight.	See tension adjustment recommendations on page 18.
	Dull needle.	Change the needle.
	Stitch length too long.	Reduce the stitch length.
Machine is noisy and material is not fed when stretch stitches are sewn.	Stitch length dial is not set at automatically set position.	Do not move the stitch length dial from the automatically set position.
Incorrect feeding.	Lint in the feed dog.	Remove the needle plate and clean the feed dog.

If your machine skips stitches only on certain fabrics, try all of the remedies on the previous page before calling a repair-man.

Check the needle plate area. If there are scratches and marks around the needle hole opening, your machine is not being cleaned properly. Always remove the needle plate and clean the feed dog periodically. Improper and lack of cleaning will cause an accumulation of lint which hampers the feeding mechanism, this in turn will cause the operator to impatiently pull or push the cloth causing the needle to bend and strike the plate, foot or hook, causing a slip in the timing mechanism. Continuous striking will cause defects making it necessary to call a serviceman. The driving belt is set in the factory and requires no further adjustment by the user.